

17. In a magneto-electric generator, the combination of the manually-driven shaft composed of two sections assembled endwise; a disk or collar operatively mounted or formed upon one of the shaft-sections; a crank operatively connected with the other shaft-section; two movable contacts supported from the disk or collar and arranged at opposite sides, respectively, of and movable toward the shaft, and each of the said movable contacts having a flange arranged longitudinally thereof; means acting to retain the said contacts in their normal position; a stationary contact partially embracing the annular path along which the movable contacts revolve during the rotation of the shaft, and arranged to be engaged at all times by one of the movable contacts in the latter's normal position, and two arms or flanges formed upon or rigid with the crank-bearing shaft-section and overlapping the one the outer side of the flange of one of the movable contacts, and the other the outer side of the flange of the other movable contact, substantially as set forth.

18. In a magneto-electric generator, the combination of the manually-driven shaft composed of two sections assembled endwise, and one of the said sections being hollow and embracing the other section; a crank operatively connected with the hollow shaft-section; two movable contacts supported from the other shaft-section and arranged at opposite sides, respectively, of and movable toward the shaft, and each of the said movable contacts having a flange arranged longitudinally thereof; means acting to retain the said contacts in their normal position; a stationary contact partially embracing the annular path along which the movable contacts revolve during the rotation of the shaft and arranged to be engaged at all times by one of the movable contacts in the latter's normal position; an arm or flange formed on the crank-bearing shaft-section and overlapping the outer side

of the flange of one of the movable contacts, and another arm or flange formed upon the said shaft-section and overlapping the outer side of the flange of the other movable contact, substantially as and for the purpose set forth.

19. In a magneto-electric generator, the combination of the manually-driven shaft; two movable contacts supported from and arranged at opposite sides, respectively, of and movable toward the shaft, and each of the said movable contacts having a flange arranged longitudinally thereof; means acting to retain the said contacts in their normal position; a stationary contact partially embracing the annular path along which the movable contacts revolve during the rotation of the shaft and arranged to be engaged at all times by one of the movable contacts in the latter's normal position; the operating-crank; a member overlapping the outer side of the flange of one of the movable contacts and a member overlapping the outer side of the flange of the other movable contact, and both of the said flange-overlapping members being revoluble and operatively connected with the crank, substantially as set forth.

20. In a magneto-electric generator, the combination of the shaft O comprising a crank-bearing section O³ revolubly embracing the gear-bearing section O²; the disk or collar P having the circumferential rim or flange P⁴ slotted, as at P⁶; the pivoted movable contacts P² having the flanges P⁷ and P⁸; the springs P⁵ and the arms or flanges O⁶ upon the crank-bearing shaft-section, all arranged and operating for the purpose shown and specified.

Signed by me at Cleveland, Ohio, this 6th day of June, 1898.

JOSEPH A. WILLIAMS.

Witnesses:

C. H. DORER,
A. H. PARRETT.